

WHAT IS CLAIMED IS:

1. A power semiconductor device, comprising:

plural power semiconductor elements which have a control electrode and a first
5 and a second current electrodes, respectively, and said first current electrodes are
connected with each other and said second current electrodes are connected with each
other, respectively; and

a control part controlling said plural power semiconductor elements, wherein
said control part repeats a regional control to bring a part of said plural power
10 semiconductor elements by providing an input signal for a part of said control electrodes,
and to bring another part of said plural power semiconductor elements into action by
providing said input signal for another part of said control electrodes after an operation of
said part is finished.

15 2. The power semiconductor device according to claim 1, wherein
said control part can select either performing a general control bringing all of
said plural power semiconductor elements into action identically by providing said input
signal for all of said control electrodes or repeating said regional control.

20 3. The power semiconductor device according to claim 1, wherein
said input signal includes a pulse row, and
said control part performs said operation of said part and an operation of said
another part in said regional control on each pulse basis.

25 4. The power semiconductor device according to claim 1, further comprising:

at least one detecting part detecting information corresponding to an operating condition of said plural power semiconductor elements, wherein

said detecting part provides said information for said control part and

said control part selects said part and said another part of said plural power
5 semiconductor elements being made to operate when said regional control is performed
on the basis of said information.

5. The power semiconductor device according to claim 4, wherein

said at least one detecting part is plural, and

10 said detecting parts are employed corresponding to said plural power
semiconductor elements, respectively.

6. The power semiconductor device according to claim 4, wherein

said detecting part is a temperature sensor, and said information is an operating

15 temperature of said power semiconductor element.

7. The power semiconductor device according to claim 4, wherein

said detecting part is a current detector, and said information is a current
flowing between said first and said second current electrodes of said power

20 semiconductor element.

8. The power semiconductor device according to claim 4, wherein

said detecting part is a voltage detector, and said information is a voltage
between said first and said second current electrodes of said power semiconductor

25 element.

9. The power semiconductor device according to claim 8, wherein
- said control part also bring at least one of said another part of said plural power semiconductor elements in addition to said part, in case a backward voltage between said first and said second current electrodes of said part of said plural power semiconductor
- 5 elements exceeds a predetermined value, when said regional control is performed.